OMSAPC ADVISORY CIRCULAR

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF AIR AND WASTE MANAGEMENT

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SUBJECT: Clarification of Motorcycle Parameter Adjustment Provision, 40 CFR 86.428-80(d).

I. Purpose

This advisory circular describes the basic criteria MSAPC will employ in certification to designate settings to be used during emission testing when the parameter adjustment provision of the motorcycle regulations is applied.

II. Background

A. On January 5, 1977 EPA published regulations for control of exhaust emissions from motorcycles (42 FR 1122). Included in those regulations was a provision which would permit the Administrator to designate, at scheduled major engine tune-ups, settings for ignition timing, idle air-fuel mixture, and other fuel system adjustments found on test vehicles (40 CFR 86.428-80(d)). This provision will go into effect with the 1980 model year.

B. 40 CFR 86.428-80(d) provides that the settings selected will be those the Administrator deems appropriate within the physically available range.

C. In the preamble to the January 5, 1977 notice of final rulemaking, it was explained that within the physically adjustable range the adjustments chosen would be those that are expected to maximize driver-perceived performance characteristics.

D. Some motorcycle manufacturers have asked for clarification of how the Administrator will designate settings for adjustable parameters under 40 CFR 86.428-80(d).

III. Applicability

The provisions of this advisory circular apply to all motorcycles for which 1980 and later model year certification is sought.

IV. Basis on which EPA will Specify Specific Settings

A. EPA will specify the ignition timing, idle air-fuel mixture, and other fuel system adjustments to be used at each tuneup. In specifying these adjustments, EPA will select settings that (1) are within the physically available ranges of the adjustments and (2) result in driver-perceived performance characteristics that in the aggregate are not significantly degraded from those obtained at the manufacturer's recommended settings. All other adjustments will be set according to the manufacturer's recommendations.

B. 40 CFR 86.421-78 provides that the configuration selected by the Administrator for test vehicles will be that "which the Adminstrator believes has the greatest probability of exceeding the standards..." Therefore, from those settings which first satisfy the criteria given in paragraph IV-A above, the Administrator will designate for use on test vehicles those settings that are expected to result in maximum emission levels.

C. The provisions of 40 CFR 86.428-80(d) apply to test vehicles throughout the service accumulation period. As a result, the settings chosen may have a direct impact on the rate of deterioration in emission performance for each particular test vehicle. To assure that the settings chosen by the Administrator under Section 86.428-80(d) do not cause the deterioration factor to be unrepresentative, it is the intent of EPA to apply the same criteria used to designate settings at the initial tuneup to designate settings at all subsequent tuneups. Different settings may be required due to changes in the vehicles (e.g., combustion chamber build-ups) during service accumulation. However, the same setting may be used throughout the certification test period at the Administrator's discretion.

V. Criteria for Determining the Range of Adjustability

A. EPA will evaluate the adjustability of the parameters based on information provided by the manufacturer in the application for certification. For adjustable parameters, the range of adjustment and method of limiting the range should be described. If the parameter is non-adjustable, the manufacturer should provide information on the method(s) used to eliminate adjustment.

B. To determine the adequacy of stops, seals, or locks, EPA will consider whether the average operator or mechanic could deactivate the stops, seals, or locks in a reasonable length of time using common hand tools. For example, merely requiring removal of an air cleaner in order to perform the adjustment will not be considered adequate deterrent to adjustment.

C. In most cases it will be necessary for EPA to examine the actual hardware in order to make a final determination regarding the adequacy of stops, seals, or locks used to restrict or prohibit adjustability as stated by a manufacturer in his application. A manufacturer may send hardware containing the adjustable parameters in question to EPA at any time during the certification process. However, any service accumulation and testing conducted prior to EPA's final determination as to adjustability and the range of adjustability of these parameters is done at the risk of the manufacturer.

D. The substitution of carburetor jets and adjustment of carburetor float levels will not be considered tuneup adjustments for purposes of certification at this time and therefore will not be governed by 40 CFR 86.428-80(d).

VI. Procedures to be Followed in the Event that the Setting Chosen by EPA Significantly Degrades Vehicle Performance

A. EPA does not intend to specify settings which, in the aggregate, significantly degrade vehicle performance. Reduced fuel economy or increased emissions will not be considered as representing degraded vehicle performance. A significant degradation of vehicle performance is evidenced by an overt indication of malfunction such as misfire, vehicle stall, knocking, overheating, poor starting, or significantly reduced acceleration characteristics. Should significant degradation of vehicle performance inadvertently occur from the use of EPA specified settings, the manufacturer is expected to discontinue service accumulation.

B. When an adverse effect on vehicle performance is encountered, the manufacturer should notify EPA in accordance with 40 CFR 86.429. This notification should describe (1) the overt indication of malfunction and (2) the point which the vehicle has reached in the test procedures (i.e., service accumulation, emission test point, etc.), and (3) the most recent set-points used for the adjustable parameters. If the manufacturer recommends to the ultimate purchaser a road test (driveability evaluation) as part of the tuneup procedure, the notification to EPA may be based on this road test. In the case where a problem is identified during a road test, any readjustment will be considered to be a part of the tuneup procedure. The post-maintenance emission test required by 40 CFR 86.429-78(f) will be performed after the vehicle has been properly adjusted in accordance with the other provisions of 86.429.